

6. Laboratory of Molecular Structure Characterization

Strengths: Functioning as a core facility the team members have insider information about most of the teams, therefore it is easy to find good collaboration partners to their own independent projects. 27 researchers with 13,4 FTE represent a very high manpower. The Department requested the evaluation not as a Core Facility, but as a research group. This is interpreted as a strong commitment for independent scientific projects. Being core facility is a possibility to get access to special techniques and equipment. The interdisciplinary approach is a great strength of the group. The group is very well funded.

Weaknesses: Research projects ought to be more focused, less diverse. Unequal contribution of team members in the production of results can be a problem.

Opportunities: To employ **even** more PhD students would be desirable. Merging the knowledge and experience of senior team members with the enthusiasm of PhD students could give even more fresh momentum to the independent scientific activity

Threats: There are no important immediate threats

Main criterion: 1. Quality of results (H1.1-H1.5)

H1.1	Quality of selected outputs of Phase I
Altogether 30 outputs were evaluated. Two of the outputs were listed in Q1 and 14 published outputs were in Q2 category. 50% of the reprint authors (1 for Q1 and 7 for Q2-s) were team members. The average rating of the team based upon the selected outputs' evaluation was 2,42. These results indicate that the number of high-quality outputs should be increased.	
H1.2	Contribution of workers on the outputs reached
Although in many of the 30 selected papers the members of the team had a dominant contribution, for the selected Q1 and Q2 outputs the contribution of workers (FC1,2/FTE) was 0.29, it can be improved.	
H1.3	Quality of all outputs and results
During the evaluation period the number of papers published in journals with impact factor was 194. This very high number can be attributed also to the Core Facility function of the team.	
H1.4	The most valuable discoveries and findings in the fields, their importance for the field
Mass spectrometry (MS), nuclear magnetic resonance (NMR), and electron microscopy (EM) are combined for the characterization of molecular structures. MS group is focused on infection metallomics. Next-generation analytical procedures for non-invasive diagnostics of clinically relevant diseases are developed in close collaboration with Czech hospitals. Obesity, diabetes and neurodegeneration crosstalk are studied by NMR metabolomics. EM equipment has been used in multimodal imaging project. The team's results are highly important and can influence and stimulate research of other groups as well.	

H1.5	Contribution of the participation of the authors in large collaborations
“Danube meets omics” collaboration with Austria, Slovakia, Serbia.	

Main criterion: 2. Societal relevance (H2.1-H2.5)

H2.1	Societal relevance of outputs and results pursuant to CAS and institute mission
The results are highly relevant to the society. The team successfully participates in projects having associated with scientific and technological development.	
H2.2	System functionality for knowledge transfer into practise, its usefulness for society. The impact of the team’s activity on proper practice in society in the area of social sciences and humanities
Not applicable	
H2.3	Relation to practice
The team has contracts with companies and has three patents.	
H2.4	Participation in AV21 strategy
Not applicable	
H2.5	Cooperation with regions of the Czech Republic
Wide range collaboration both on national and international level	

Further criterion: 1. Position in international and national context (D1.1-D1.3)

D1.1	Comparison of the team with similar international and national institutes
The team is well-known internationally, it is a regional center of excellence. Using cutting edge technology the team is highly collaborative and competitive..	
D1.2	Scope and quality of international and national cooperation and the role of the team in such cooperation; engagement in broad international cooperation
The group had 9 international cooperation in the 2015-19 period with groups from 6 countries.	

D1.3	Participation of the workers in scientific community activities (organizing of conferences and workshops, invited lectures, awards)
<p>The team leader is member of four scientific societies, advisory board member of two scientific journals, board member of four Czech scientific or educational committees. Team members were obtained ten national or international awards in this evaluation period. Team members were invited lecturers on more than ten international conferences.</p>	

Further criterion: 2. Vitality, sustainability and strategy (D2.1-D2.9)

D2.1	Direction in line with the perspective of the planned research directions
<p>Yes</p>	
D2.2	Assessment of the previous research objectives and their achievement
<p>The Department made considerable progress in most of the research objectives formulated in 2014.</p>	
D2.3	Assessment of implementation of recommendations from past evaluation
<p>The past evaluation did not specify any other recommendation than “the present activities should be continued”.</p>	
D2.4	Success in receiving grants
<p>Well-funded laboratory (9 grants and contractual funding). Currently 4 group members participate mainly as PI-s in 9 grants worth of 1 M Euro</p>	
D2.5	Adequacy of instrumental equipment
<p>The team has the necessary equipment to produce high level scientific results. The current equipment makes possible a high-level multidisciplinary approach to scientific problems.</p>	
D2.6	Effectiveness of management
<p>The PI is internationally well-known expert of his field. The high number of papers (192/5 years) indicates that the team as a Core facility is successful and reliable. The management successfully integrates and directs the work of the subgroups.</p>	
D2.7	Assessment of professional structure, development strategy and the strategy of keeping best scientists, age structure, career and qualification growth
<p>Team 6 is a great team with 27 researchers with more than 10 PhD students. This manpower can be used ideally. For a high level “routine” collaboration experienced people are needed. For “cutting edge” science there are enough young researchers and PhD students and senior people to supervise.</p>	

D2.8	Creating work-life balance conditions, assessment of approach towards possible gender issues
The MBI is an equal opportunity employer. The female/male ratio in the group is 43/57. The lab has a number of team members from foreign countries.	
D2.9	Relation of the team with regard to the integration, development and sustainability of the research centre funded by the National Programme of Sustainability II.
The group is funded by National Sustainability Program	

Further criterion: 3. Cooperation with universities and participation in education (D3.1-D3.6)

D3.1	Scope of cooperation with universities on national and international level
There is broad scale cooperation between the group and the Czech universities. Team members participate in the teaching and in the supervision of the students.	
D3.2	Effectiveness of joint research centres
Seven collaboration contracts exist between the group and university departments, faculty hospitals.	
D3.3	Success rate in supervision of PhD students
4 doctoral theses have been successfully defended in the evaluation period	
D3.4	Participation of PhD students in the outputs
PhD students participated actively in the projects and became co-authors in the papers.	
D3.5	Participation of the team in master or bachelor studies
The team participated in 7 bachelor and in 11 master course	
D3.6	Assessment of cooperation intensity with universities in the form of teaching
The team participates in the teaching activity of four Czech universities	

Further criterion: 4. Outreach activities (D4.1-D4.3)

D4.1	Sufficiency of media strategy and activities in the area of research popularisation
<p>Public relations are pursued by their webpage indicating press releases (Star Telegram, CBS News), links to the US and Czech TV reportages or laboratory videos. Large scale of outreach activities towards secondary schools and universities.</p>	
D4.2	Publishing activities and its quality
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D4.3	Participation in professional organisations in the area of research and development
<p>The involvement of the group in professional R&D organizations is excellent. In the report 10 are listed.</p>	

Team categorisations and a brief commentary:

<input type="checkbox"/> strengthen the support of the team <input checked="" type="checkbox"/> keep the support of the team at the current level <input type="checkbox"/> reduce the support of the team
Please enter your comment here

Other comments of the commission: